

***Keep This Manual  
With Air Conditioner***



***CAUTION***

**BEFORE INSTALLING AND  
USING THIS AIR CONDITIONER,  
IT IS IMPORTANT THAT THIS  
MANUAL BE READ AND  
UNDERSTOOD THOROUGHLY**

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## ***I. Introduction***

Kooltronic Air Conditioners are designed to provide a cool, dehumidified environment for your electronic components. There are models to fit virtually all sizes and shapes of electronics enclosures, in capacities ranging from 1,000 to 30,000 BTU/H. Our "closed-loop" design also ensures that your components will not be exposed to hot, dirty operating conditions.

This Manual provides you with the necessary general information for properly installing and operating standard Kooltronic Air Conditioners. Technical data and mounting instructions are presented on pages 7 through 10.

## ***II. Incoming Inspection***

Kooltronic Air Conditioners are designed, built and packaged to withstand the shock and vibration normally associated with shipment by common carriers. Occasionally improper handling during shipping causes damage. Such handling could include unbanding of palletized shipments, failing to respect "**This Side Up**" arrows, rough handling, falling off conveyors, excessive vibration, crushing, etc. Therefore, a thorough inspection should be done upon receipt of all shipments. Any carton tears, dents, scratches, loose articles or evidence of oil are signs of damage and should be noted on the Freight Bill. Cartons should be opened promptly and the units inspected for CONCEALED DAMAGE. Kooltronic Air Conditioners must be delivered in the proper mounting position to assure that damage to the compressor has not occurred during shipping. Any Kooltronic Air Conditioner that is delivered removed from the banded pallet, lying down or double stacked should be refused.

An immediate claim **MUST** be filed with the freight carrier and an inspection requested. Retain all packing materials. Kooltronic cannot assume responsibility for Consignee's failure to file a timely freight claim.

## ***III. Product Handling:***

- 1) Do not attempt to operate your Kooltronic Air Conditioner until you read and thoroughly understand this Manual. See section **VI PRE-INSTALLATION TESTING**.
- 2) Before operating the Kooltronic Air Conditioner be certain that it is placed in its correct mounting position. **All Air Conditioners containing an M, P, or V as part of the model number are designed to operate in a vertical position only. All Air Conditioners containing an H in the model number are designed to operate in a horizontal position only.** This placement must be done a minimum of 5 minutes prior to operating in order to allow the compressor oil to drain to the compressor sump area.

### ***CAUTION***

**Kooltronic Air Conditioners must be operated in their proper mounting position. If attempts are made to operate a unit that is not in its designed mounting position, permanent compressor damage will occur. This action will void the warranty. To avoid compressor damage do not tip the unit more than 45° from its proper mounting position.**


- 3) Before operating this unit, all electrical wiring must be checked to assure the proper connection to the correct power source. Minimum circuit ampacity should be at least 125% of the amperage found on the air conditioner label for the corresponding voltage. Do not exceed the maximum fuse size found on the label.
- 4) We do not recommend that Air Conditioners be shipped to their final destination attached to an enclosure. In the event that the Air Conditioner needs to be shipped attached to an enclosure it is strongly recommended that proper support be provided for the Air Conditioner. Excessive vibration can occur if Air Conditioners are not properly supported when shipped on enclosures, increasing the potential for internal damage and voiding the warranty.
- 5) **PROCEDURE FOR PROPER PACKING AND SHIPMENT OF KOOLTRONIC AIR CONDITIONERS:**
  - Keep Air Conditioner in proper upright position indicated by arrow markers.
  - Pack Air Conditioner in an appropriate carton (preferably original carton if possible), with adequate internal protective packaging, making sure carton is marked and is kept in correct upright position.
  - For local, controlled transportation, strap carton to a secure part of truck to prevent falling or sliding, minimize vibration, etc.
  - For common carrier shipment, band unit(s) securely to a pallet. Unpalletted shipment risks severe damage which voids the warranty.

## IV. Product Identification and Labels

Each Kooltronic Air Conditioner includes an identification label. This label provides:

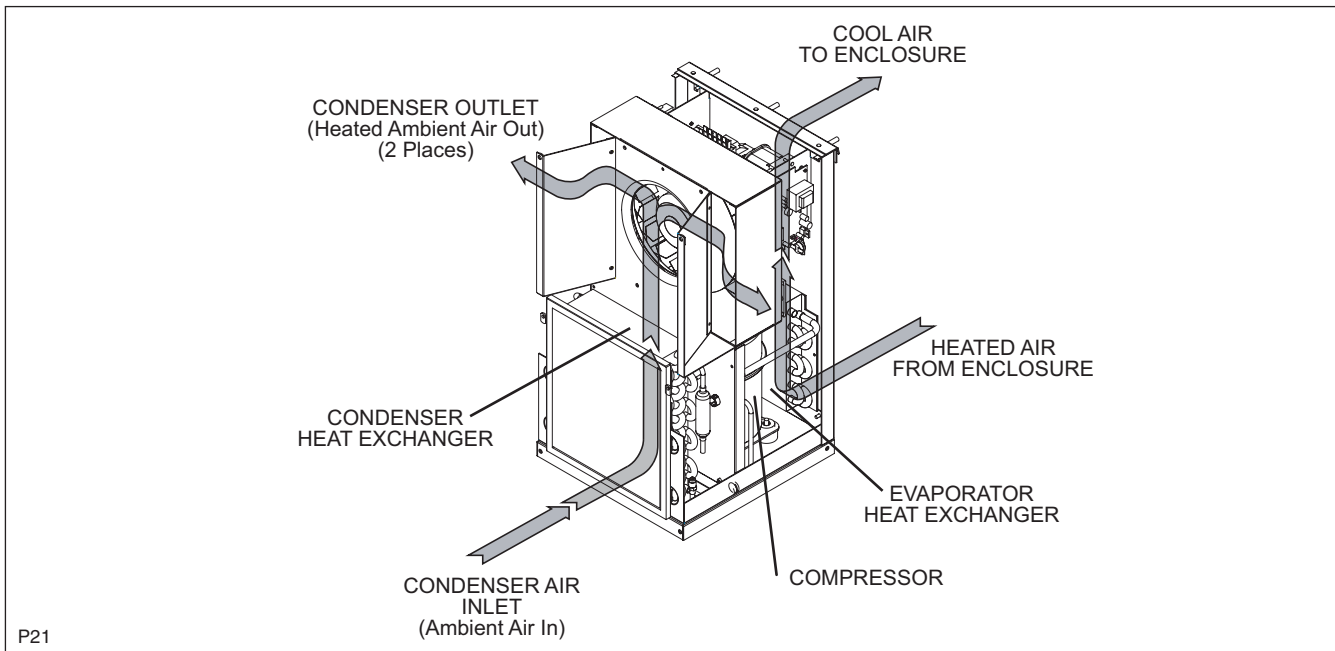
- ① Model Number
- ② Serial Number
- ③ Electrical power characteristics
- ④ Maximum and minimum ambient operating temperatures
- ⑤ Cooling capacity
- ⑥ Type and amount of refrigerant required for recharging
- ⑦ Design Pressure
- ⑧ Underwriters Laboratories Inc. Listed or Recognized Marks and NEMA ratings

We recommend you copy this information from your unit.

			Air Conditioner		
MODEL NO.			SERIAL NO.		
①			②		
VOLTS.	FREQ.	PH.	COOLING F.L.A.	AMBIENT TEMP. MIN. °F	MAX °F
③	③	③	③	④	④
COOLING BTU			REFRIGERANT		
⑤			⑥		
DESIGN PRESSURE P.S.I.G.			MAX. FUSE SIZE	⑧	
LOW	HIGH		③		
⑦	⑦				
<p>SERVICE AIR FILTERS REGULARLY ALLOW 5 MIN. BEFORE RESTARTING AFTER SHUTDOWN UNAUTHORIZED SERVICE OR MODIFICATION VIOLATES WARRANTY ALL MOTORS ARE THERMALLY PROTECTED</p> <p>THIS PRODUCT IS PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS: 3,019,965 3,120,166 3,211,360 3,559,728 3,807,493 AND OTHER PATENTS PENDING</p> <p>MANUFACTURED BY: KOOLTRONIC, INC. PENNINGTON, NJ VENTURA, CA</p>					

- ① ② When ordering parts, specify the Model Number and Serial Number.
- ③ Before operating, be sure that the power source matches these requirements.
- ④ Make sure that these parameters are met. Failure to do so may result in permanent damage to the unit.
- ⑥ Use of incorrect type or amount of refrigerant will adversely affect performance and may damage the unit.

## V. Principles of Operation



Kooltronic Air Conditioners are required when the equipment operating temperature must be kept near or lower than the ambient room temperature, and/or the cabinet must be sealed from dust, fumes, oil, corrosives and other contaminants. These Air Conditioners utilize a "Closed-Loop Cooling System" to ensure optimum performance of the installed components.

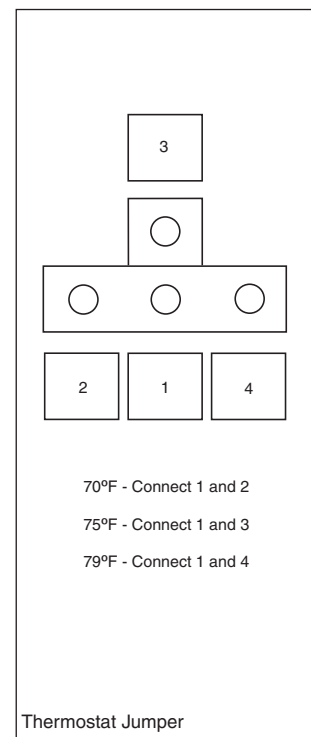
Closed-Loop cooling seals the electronic enclosure from hostile elements in the environment. Two separate circulation systems are employed. The internal system cools and dehumidifies the air inside the cabinet, totally isolating the sensitive electronics and other components from the environment. The external system uses circulating ambient air or water to discharge the heat removed from the electronics. The heat is dissipated from the enclosure by means of the vapor compression refrigeration cycle. This takes place in a hermetically-sealed refrigeration system, utilizing either an air-cooled or water-cooled condenser heat exchanger. The warm air inside the enclosure is drawn through the evaporator coil where it is cooled, dehumidified and returned.

Any enclosure moisture accumulated on the evaporator coil is collected in the condensate tray and removed through the drain tube to the condensate evaporator. Condensate evaporates in the condensate evaporator and is released to the ambient air by the condenser impeller.

The heat removed through the evaporator coil is transferred by the compressed refrigerant to the condenser coil. Ambient air is then passed through the condenser coil, where it absorbs the heat and is then discharged to the environment.

Kooltronic Air Conditioners are designed to operate continuously in order to eliminate compressor cycling, which shortens compressor life and causes line transients. This unit is also equipped with a Low Temperature Thermostat to prevent the evaporator coil from freezing. In conditions of low ambient temperature and low enclosure load, the thermostat regulates the return air temperature from 75°F to 86°F. The standard set point of the Low Temperature Thermostat is 75°F. The set point can be changed to 70°F or to 79°F by changing the location of the thermostat jumper (See illustration at right).

The Low Temperature Thermostat has a test start relay. When the air conditioner is turned on it will run constantly for the first 15 minutes regardless of external temperatures. Afterwards, if the entering evaporator air temperature is lower than the thermostat set point, the compressor and condenser blower will stop, and the thermostat will begin to control the air conditioner.



The heater kit consists of a heater, a heat control thermostat and a heater limiter. The heater control thermostat is a bimetal disk with a fixed set point of 60°F. When the entering evaporator air temperature rises above 60°F the heater shuts off, and when the evaporator air temperature falls below 40°F the heater will engage. The contact points of the alarm thermostat are normally closed. If the entering evaporator air temperature exceeds 120°F the alarm thermostat contacts open, and when the temperature drops below 120°F the contacts close.

A condenser fan speed controller is standard on this unit. The speed controller temperature sensor is installed in the airstream of the condenser. When the ambient temperature is above 95°F the condenser fan will run at full speed. When the ambient temperature is between 85°F and 95°F the condenser fan will run between maximum and minimum speed. When the ambient temperature is lower than 85°F the condenser fan will cycle. In applications having frequent voluntary or involuntary power interruptions or heat load fluctuations, a Compressor Short Cycle Protector is recommended to allow adequate time for the internal pressure of the air conditioner to equalize before restarting.

When the Kooltronic Air Conditioner is properly sized it should operate constantly and maintain 75°F to 115°F enclosure temperature, depending on the ambient temperatures.

## ***VI. Pre-Installation Testing***

Before mounting the air conditioner to the enclosure, test for proper operation. This will verify the shipping integrity of the system. Please follow the steps below prior to installation.

### **CAUTION**

**The air conditioner must be standing in its proper mounting position for a minimum of five (5) minutes prior to testing. Failure to follow this procedure will cause permanent damage to the compressor. To avoid compressor damage do not tip the unit more than 45° from its proper mounting position.**

1. The unit must sit in an upright position at a minimum room temperature of 65°F to allow the system to warm-up. This is particularly important during winter months.
2. Refer to the identification label for proper electrical voltage and current requirements. Connect the power cord to a properly grounded and fused electrical supply, leaving electrical power to the unit turned off.
3. Note the factory thermostat setting which is 75°F.
4. Turn the electrical power on.
5. Verify that the evaporator blower or fan is running.
6. Verify that the condenser blower or fan is running.
7. Operate the air conditioner for approximately ten (10) minutes. During this period no unusual noise or vibration should be evident. Both the evaporator and condenser fans or blowers should be delivering air through their respective discharge ports. The cool air discharged should be less than 70°F when the room temperature is between 70°F and 80°F.
8. Turn off the electrical power and disconnect the air conditioner from the power source.
9. If any cover plug was removed to adjust the unit, be sure to replace it in order to maintain the integrity of the closed-loop airflow system.

**NOTE:** Before shipment all Kooltronic Air Conditioners are subjected to a performance test.

## VII. Specific Model Data

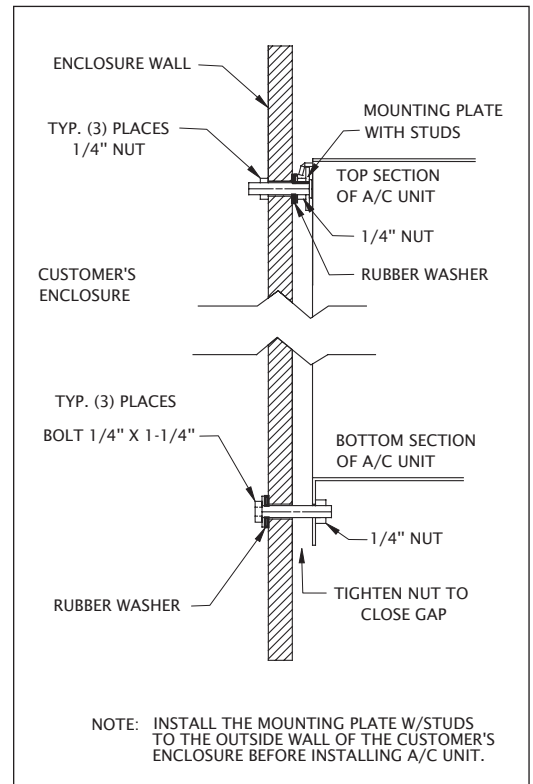
### Mounting

The Kooltronic Special Purpose Air Conditioners K\_NA4C3P21R have been engineered to be installed easily. These units utilize double layer gaskets. The first gasket layer is placed on the outside perimeter of the front panel that is sealed against the customer enclosure. The second layer is placed on the two cutouts in the front panel. The first gasket layer will allow a small amount of water between the two layers. The second gasket layer totally protects an enclosure from ambient air, rain or hose down water. This gasket arrangement assures the integrity of the closed loop system and is necessary to maintain the NEMA 4 rating.

Prior to mounting, refer to page 8 for the general arrangement drawing showing dimensions and locations of mounting holes and cutouts. Prior to cutting or drilling, make sure that cutouts and mounting holes do not interfere with components inside the cabinet. To avoid damaging your air conditioner, please read the following information before installation:

1. It is recommended that a lift truck be used for installation.
2. Attach the Mounting Plate to the enclosure using (3) 1/4-inch stainless steel nuts, (3) sealing washers as a spacer and (3) 1/4-inch stainless steel mounting nuts. Sealing washers must be placed against customer enclosure (see mounting drawing).
3. Place the air conditioner on the lift truck. Insert a 1-inch (approximate) wooden block between the lift truck bottom and the air conditioner bottom so that the angle between the unit mounting panel and the air conditioner is about 15 degrees.
4. Adjust the lift truck height so that the air conditioner hook is located approximately 1/2-inch above the mounting plate.
5. Route the power cord through the discharge (upper) air cutout.
6. Move the air conditioner toward the enclosure panel so that the gap between the hook and the enclosure is about .05-inch.
7. Slowly move the lift truck down until the hook engages with the mounting plate. Continue to lower the lift truck. The air conditioner will hang from the mounting plate flush against the mounting panel.
8. Insert stainless steel screws through the holes in the mounting plate bottom flange and the enclosure panel. Install sealing washers and stainless steel nuts on each screw from inside the enclosure and tighten (see mounting drawing).

#### MOUNTING DRAWING

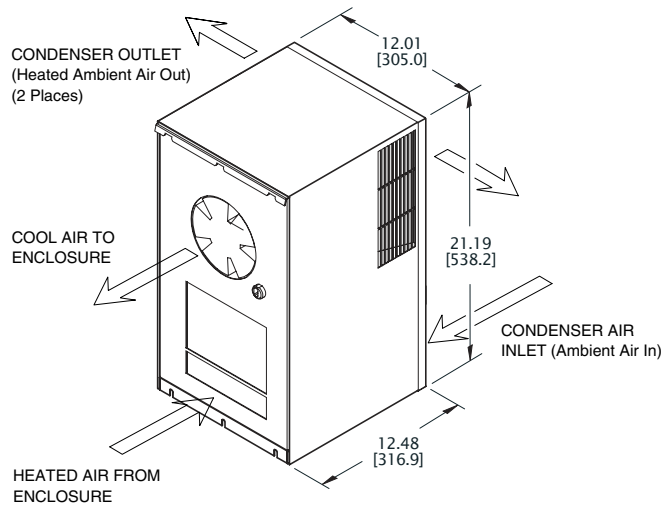


### CAUTION

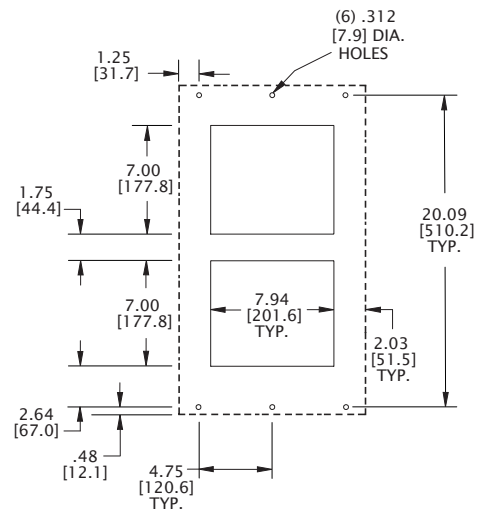
**If the air conditioner is mounted to the cabinet door you must be sure that the door hinges will support the additional weight of the air conditioner. Also be certain that when the door is opened fully, the cabinet does not become unbalanced. The actual weight of the unit can be found in the performance specifications.**

# Drawings and Dimensions

**FIGURE 1**

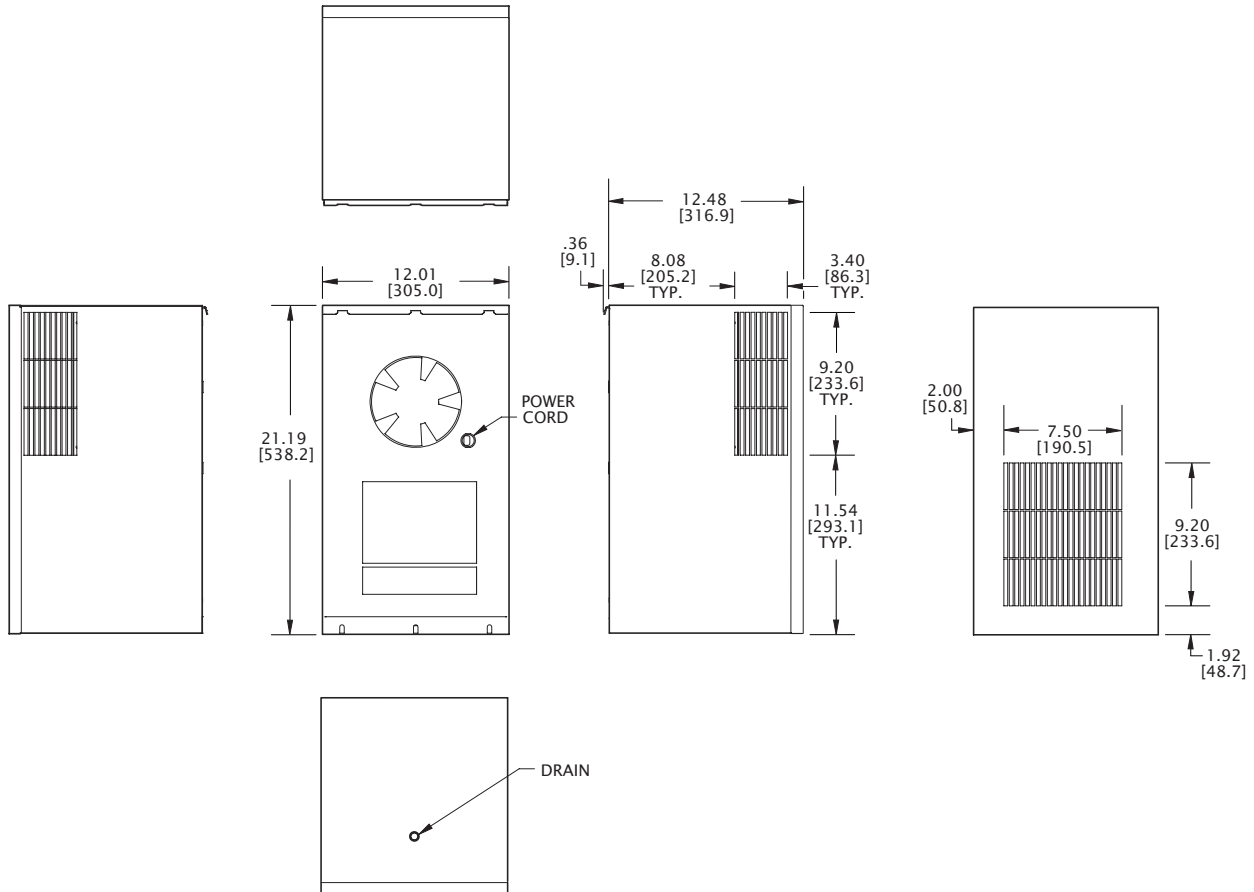


**MOUNTING PLAN**



Dimensions, inches [mm], are for reference only and are subject to change.

## K\_NA4C3P21R SERIES



Dimensions, inches [mm], are for reference only and are subject to change.



## Technical Data

Model	BTU/H Capacity	BTU/H 95°F/95°F	Ambient Temp. °F Max.	Ambient Temp. °F Min.	Volts	Hz	Running Amps	Approximate Weight (lbs.)
KNA4C3P21R	3000	2160	125	0	115	60	11.3	76
K2NA4C3P21R	3000	2160	131	0	230	60	4.7	76
K2NA4C3P21R5	3000	1940	131	0	230	50	4.6	76

\*Rating shown is for operation at maximum ambient temperature.

## Major Component Replacements

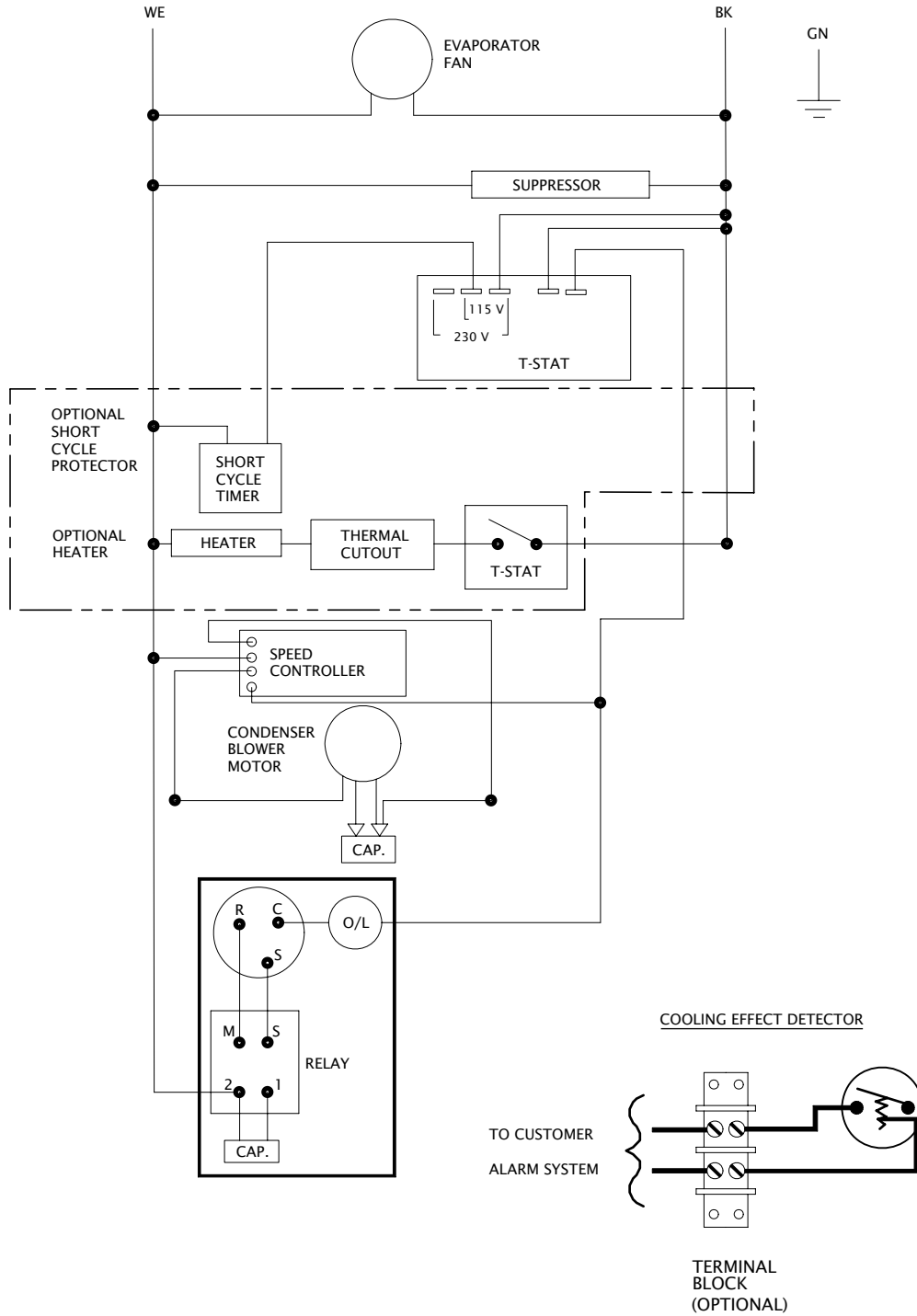
Part	KNA4C3P21R Part Number	K2NA4C3P21R Part Number	K2NA4C3P21R5 Part Number
Compressor	0665-101	0665-107	0665-110
Compressor Impeller	0194-14	0194-15	0194-15
Condenser Impeller Capacitor	0452-06	0452-73	0452-73
Evaporator Fan	0265-03	0265-06	0265-06
Filter	9501F	9501F	9501F

NOTE: Part Numbers shown are for 60Hz/1Ø. For 50Hz consult Kooltronic.

## Standard Features

- Air filter
- CFC-Free refrigerant
- EMI/RFI suppressor
- Internal corrosion protection
- Low Temperature Control Electronic Thermostat
- Condenser Impeller Speed Controller
- Maintains NEMA 12 and NEMA 4/4X Rating (UL50)
- Stainless Steel (304-2b) Cabinet
- UL/CUL Recognized

# Wiring Schematic



WD-879

**K\_NA4C3P21R**

## ***VIII. Maintenance***

Kooltronic Water-Cooled Air Conditioners require no maintenance. Air-Cooled Air Conditioners are designed to require only the routine cleaning of air filters to assure unimpeded airflow through the condenser heat exchanger. It is not possible to recommend specific filter cleaning intervals since the level and the nature of airborne particulate matter differs widely with each installation. It is generally sufficient to remove and wash the reusable aluminum mesh air filters when the outer surfaces of these filters appear covered with a thin layer of dust or lint. Filter recoating adhesive is recommended. Appropriate disposable filters are available from Kooltronic.

If filter service is neglected or delayed, the air conditioner will not perform at its design capacity. The first indication of excessively clogged air filters is usually a gradual increase of temperature within the equipment cabinet. If operation is continued under these conditions, the compressor will be shut off by the thermal overload device. The compressor will restart when its external temperature drops below the protector threshold setting and the compressor will continue to cycle on and off. Continued operation under these conditions will cause damage, shorten compressor life and void the warranty.

### **A. Filter Removal and Service**

Kooltronic Air Conditioners feature an easily removable inlet filter to facilitate necessary cleaning.

### ***CAUTION***

**Do not operate the air conditioner for extended periods of time with the filter removed, as the condenser coil may become clogged with dust or lint from the air entering the face. A unit with a clogged condenser coil will have the same reaction as one with a clogged filter. A clean filter is the best protection.**

- 1) Remove the two screws from the rear panel.
- 2) Remove the rear panel from the unit.
- 3) Remove the filter from the filter holder by moving it up and towards you.
- 4) After removal the filter should be flushed under warm water with the clean side up, driving contaminants out from the dirty side of the filter. If the accumulated dirt is oily, washing in a detergent bath is recommended, followed by a warm water rinse as above.
- 5) The filter may be sprayed with Kooltronic A-16 Filter Coating Adhesive to trap fine airborne contaminants, or it may simply be dried and reinstalled. Recoating is recommended for the best results.
- 6) Reinstall the filter.
- 7) Replace the rear panel and attach it to the unit with two screws.

## B. Blowers

The design life of the blowers used in all Kooltronic Air Conditioners is substantially in excess of 20,000 hours. All Kooltronic condenser and evaporator blowers are equipped with automatic-reset thermal overload protectors.

### **CAUTION**

**Before opening the air conditioner, disconnect all power.**

If field replacement of a blower motor is necessary, most blower assemblies, including the mounting plate, are readily removable. Each of the blower mounting plates is held to the air conditioner cabinet structure by screws and nuts. For installation of the replacement blower, electrical connections may be broken at the terminal block, or power leads may be cut and appropriately spliced together.

## C. Compressor

All Kooltronic compressors are approved by UL and CSA, and require no maintenance. They are hermetically sealed and charged at the factory, and equipped with automatic-reset thermal overload protectors.

If the compressor fails, it is strongly recommended that the air conditioner be returned to Kooltronic for service.

## D. Refrigerant Loss

Kooltronic Air Conditioners are subjected to a series of tests to detect refrigerant leaks, during and after manufacture. It is possible that shipping or other damage, or microscopic leaks over a long period, may result in the need for replenishment of refrigerant charge. **When it has been verified by a Certified EPA Technician that a refrigerant shortage does exist, the leak must be repaired. Then the unit may be evacuated and recharged in the field by a Certified EPA Technician only.**

### **CAUTION**

**Refer to the data on the unit name plate which specifies the type of refrigerant and the amount of charge in ounces.**

## E. Relocation

If your Kooltronic Air Conditioner has to be moved to another location by truck, the following precautions should be taken:

- De-mount the air conditioner from the equipment, controller or enclosure.
- Conform to the applicable provisions of PROCEDURE FOR PROPER PACKING AND SHIPMENT OF KOOLTRONIC AIR CONDITIONERS in this manual under *Section III. "PRODUCT HANDLING."*

## IX. Trouble-Shooting

Each Kooltronic Air Conditioner is engineered for performance and built for reliability. They are designed to require no routine maintenance other than the cleaning of ambient air filters. If your air conditioner should require warranty service, please contact Kooltronic. If you require service out of warranty, we have compiled a trouble-shooting chart to assist your service personnel. If additional assistance is required contact Kooltronic at (609) 466-3400.

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Unit not Cooling	No Power	Check Power Source and Electrical Connections
	Loss of Refrigerant	Locate and repair leak
	Evaporator or Condenser Blower not operating	Replace Motor, Capacitor or entire Assembly
	Filter clogged	Clean or replace Filter
	Clogged Evaporator or Condenser Coil	Clean Coil
	Low Temperature Control sensor wires broken	Check sensor wire connections
	Low Temperature Control (Thermostat) defective	Replace Thermostat or Relay when applicable
Ice on Evaporator Coil	Failed Compressor	Replace Compressor
	Insufficient Heat Load or Unit Oversized for Application	Contact Kooltronic
	Failed Evaporator Blower	Replace Evaporator Blower Motor or Assembly
Condensate draining continuously	Clogged Evaporator Coil	Clean Coil
	Enclosure not properly sealed	Check and seal all openings
Excessive vibration	Excessive opening of Enclosure	Eliminate the frequency of door opening
	Defective Motor in Blower	Replace Motor
	Defective Wheel in Blower	Replace Wheel
Compressor Inoperative	Compressor Loose	Tighten Mounting Bolts
	Low line Voltage	Check Nameplate Voltage against supply
	Loss of Compressor Oil	Replace Compressor
	Loss of Refrigerant	Locate and repair leak
	Failed Compressor Capacitor	Replace Capacitor
	Thermal Overload	Contact Kooltronic
Refrigerant or Oil leaks	Power interruptions	Allow Compressor time to reset
	Crack or pin hole in tubing or brazed joint	Replace tubing or rebrase joint
Condensate on the outside surface of the Enclosure	Insufficient Heat Load or Unit oversized for application	Contact Kooltronic

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## X. Warranty

KOOLTRONIC products are warranted to be free of defects in workmanship, materials and components. The following warranty periods apply from date of shipment:

- Air moving devices and components: 20,000 hours continuous duty
- Hermetic system components: Two years continuous duty
- Non-operating parts, except filters: 5 years

The above warranty applies when the equipment is operated under the following conditions:

- Ambient temperature not in excess of 125°F (52°C) in normal atmosphere or as stated on product nameplate
- Voltage variation no greater than  $\pm 10\%$  from nameplate rating
- Frequency variation no greater than  $\pm 3\text{Hz}$  from nameplate rating
- Maximum cooling load no higher than air conditioner nameplate rating
- Waiting five minutes before restarting air conditioner after intentional or accidental shutoff
- Compliance to all other installation, maintenance and operating instructions, as supplied

**KOOLTRONIC cannot assume responsibility for mis-application of its products or the erroneous selection of an inappropriate product by a non-authorized KOOLTRONIC representative. Our applications engineers will gladly assist in the selection of the proper product, provided all required details of the application are furnished.**

**THIS WARRANTY CONSTITUTES THE ENTIRE WARRANTY WITH RESPECT TO THE PRODUCT AND IS IN LIEU OF ALL OTHERS, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND IN NO EVENT IS KOOLTRONIC RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.**

### **RETURN AUTHORIZATION (RA) PROCEDURE**

- All returns require a Return Authorization number whether the return is for warranty or non-warranty repair, rotation of stock, damage or any other reason. Returns without an RA number will be refused.
- Customer must call the Kooltronic Customer Service Department, Pennington, New Jersey (609•466•3400) to obtain an RA number.
- The following information is required when an RA is requested:
  - Original customer Purchase Order number and date
  - Date product was received by customer
  - Number of parts to be returned
  - Product description, model and serial number
  - Reason for return
  - Action requested

KOOLTRONIC assumes no liability beyond the repair or replacement of its own product. This Warranty does not cover:

- Labor or reimbursement of labor for evaluation, removal, installation, repair, or cost of any warranted part, except at the KOOLTRONIC factory in Pennington, NJ
- Use of equipment for other than its designed purpose or operating conditions
- Operation in harsh, oily, corrosive or other abnormal environmental conditions, without the proper filtration, sealing, protective coatings and/or weather protection
- Damage to hermetic system resulting from continuous operation with dirty or clogged air filters or improper or negligent maintenance
- Use of refrigerant other than designated
- Customer modification or abuse
- Shipping damage or other accident
  - Cracked or broken hermetic tubing or brazed joints caused by shipping damage or mishandling are not covered under the Warranty.
  - Claims for shipping damage are the responsibility of the Consignee. Timely claims must be filed with the freight carrier.
- Any and all conditions resulting from noncompliance with the preceding operating conditions

The purchaser assumes the responsibility of grounding the unit and installing it in accordance with local electrical and safety codes, as well as the National Electric Code (NEC) and OSHA.

- Contact name, telephone and FAX numbers
- Pack unit in a suitable container for shipment, preferably the original packaging if available. All Air Conditioners and Heat Exchangers must be returned in an upright position properly secured to a pallet. **Improper packaging may void warranty claim.** If Air Conditioner or Heat Exchanger is received laying down or shipped via UPS or similar service the warranty will be void.
- Mark box prominently with Kooltronic's Return Authorization Number.
- Enclose all pertinent documents.
- Freight charges on all products returned to Kooltronic shall be paid by the customer. Collect shipments will be refused.

# BEAT THE HEAT!



**Basic and Packaged Blowers -**  
Basic units and packaged units for 19" EIA Rack; w/Grille, Filter and Guards. Capacities from 130 cfm to 1250 cfm.



**Heat Exchangers -**  
Air-to-Air and Water-to-Air models in a variety of sizes with capacities up to 91 Watts/°F.



**Basic and Packaged Fans -**  
Compact designs and packaged units. Capacities from 200 to 1310 cfm.

**NEW!**



**Advantage Air Conditioners and Heat Exchangers -**  
Ready for Indoor or Outdoor Installation Right Out of the Box! With rounded edges; no visible hardware and a textured baked powder finish to blend easily with contemporary enclosure designs. Integral weather protection eliminates unsightly weather hoods and a patented sealing system maintains both a NEMA 12 and a NEMA 3R interface with the enclosure.



**Integrity NEMA 4/4X Air Conditioners and Heat Exchangers -** Only by Kooltronic! Designed for applications that require washdown or are subject to outdoor conditions.  
**Air Conditioners** from 1,000 to 10,000 BTU/H.  
**Heat Exchangers** up to 65 W/°F.

**NEW!**



**Motorized Impellers -**  
Delivers high CFM rates in a minimum amount of space.



**Air Conditioners -**  
Traditional, TrimLine, Mini, Rack-Mount and Top-Mount models. Available in capacities from 1,000 to 30,000 BTU/H.



**KoolTray II -** 19" width fan cooling units. Available in 1, 2 and 3 row configurations. Custom/Special units available.

**Free comprehensive Design Guide / Catalog** for selecting the proper Air Conditioner, Heat Exchanger, Blower or Fan.

 **KOOLTRONIC**  
COOLING EXCELLENCE FOR ELECTRONICS

Pennington, NJ  
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**FREE!**



Visit us online at:  
**www.kooltronic.com**  
E-Mail: sales@kooltronic.com